

Effects of Progressive Relaxation on Alcoholic Patients

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AT the Bureau of Alcoholic Rehabilitation's Treatment and Research Center in Avon Park (referred to as the Center), one of the major desired effects of the counseling process has been to reduce in its alcoholic patients the excessive anxiety which seemed to be commonplace among them and appeared to hinder them from deriving full potential benefit from treatment. This excessive anxiety also was thought to be a major contributory factor in causing patients to leave the Center against medical advice (AMA). Anxiety seemed to be particularly high during a patient's first week at the Center, when he had to adjust to the hospital treatment and routine. In order to try to reduce excessive anxiety in patients, a progressive relaxation technique was employed. This technique was introduced at the Center by Mr. Charles Dils, former Bureau Clinical Psychologist.

Progressive relaxation is a procedure taught to patients to enable them to relax their entire body through practicing the relaxation of the various muscle groups as units. The physical relaxation is supposed to contribute to a mental state of reduced anxiety. This method has been reported to be effective for the treatment of neurotic disorders which involved a great deal of anxiety (Watkins, 1965). For example, in one study, a group of 37 alcoholic patients was treated by aversion and relaxation therapy, while another group of 25 patients was treated by aversion therapy alone. At 12 months follow-up, 59 per cent of the group which received relaxation therapy was classified as abstinent or improved, while only 50 per cent of the group which did not receive relaxation therapy was classified as abstinent or improved (Blake, 1967).

Relaxation therapy was employed at the Avon Park Center as an adjunct to other treatment, primarily group therapy in a therapeutic community setting (see Thomas, no date, for a further description of the treatment at the Avon Park Center) in order to enable patients to reduce their anxiety to an optimal or manageable level during their hospitalization. It was felt that if this could be done, patients would have better control over their behavior and a better chance to benefit from other treatment at the Center.

Specifically, it was felt that if relaxation therapy were beneficial for patients then the benefits should be directly reflected by (1) a reduction in the number of patients who drop out of treatment and leave the Center AMA, particularly at the beginning of treatment; (2) patients being able to sleep and rest more fully at night; and (3) the improved adjustment of patients between intake and discharge at the Center.

METHOD

Subjects. At the Center, patients are assigned to counselors for guidance on a rotating basis, usually at the rate of a group of twelve patients per month. When patients assigned to one counselor are discharged, he is assigned the next twelve patients to be admitted. The study subjects were all 72 patients (74 per cent male, 26 per cent female) consecutively assigned to the first author for small group and individual counseling between October, 1968 and May, 1969. The first 24 and the last 12 patients received no progressive relaxation treatment (NPRT Group), and the middle 36 patients were given progressive relaxation treatment (PRT Group). All 72 patients received the medical, individual and group therapy that was customarily given at the Center.

Measurement. In order to be able to analyze a detailed profile of the adjustment of subjects, the results of the patient responses on selected scales of the Cornell Medical Index Health Questionnaire (CMIHQ) and the Cornell Medical Index, N2 Form (CMIN2) were analyzed (Brodman, Erdman, and Wolfe, 1949; Weider, Wolfe, Brodman, Mittleman, and Wechsler, 1948). On both of these questionnaires the higher a patient's score, the greater his indicated pathology.

The percentage of "quiet nights" (or equivalent) notations by a night nurse in the daily medical record of the patient was used as an indicator of his general anxiety level. Additionally, it was felt that it was generally desirable for patients to rest at night, since this would improve their physical recuperation and their alertness during therapy.

The number of days that a patient was in treatment at the Center was also used as a measure. The usual treatment schedule called for 28 days stay, although some, depending upon their needs,

stayed longer. Generally, 25-28 days were considered of optimal benefit to the patients.

The type of discharge recorded in a patient's medical records was used as the index of whether or not a patient completed treatment or left against medical advice (AMA). Completing full treatment meant that the patient had stayed for the full 25-28 days of scheduled treatment usually given at the Center, or had derived all of the benefit from Center treatment that he was judged potentially capable of receiving. Leaving the Center AMA consisted of a patient leaving treatment due to a lack of sufficient motivation to continue treatment, environmental causes, anxiety and resistance because of disturbing insight, or self assertion of the patient.

Analysis. The techniques of data analysis included: Chi square, Fisher's exact test, and an interpolated median. Fisher's exact test was used when all frequencies were too low to yield meaningful results with chi square analysis. Fisher's exact test results in a direct probability (Hays, 1963).

The McNemar and binomial tests were used to assess changes between intake and discharge on selected characteristics. The binomial test was used when frequencies were too low to yield meaningful results with the McNemar test (Siegel, 1956).

Progressive Relaxation Therapy. The progressive relaxation treatment (PRT) for the patients who received this experimental therapy consisted of playing for them a 20-minute tape recording specially adapted for alcoholic patients. The recording was a set of instructions, spoken by a male voice, which started with a brief explanation that the relaxation technique being described was a way of reducing tension and anxiety. It was stated on the tape that this method of relaxing was more desirable than using drugs or artificial means since it was "natural." Also stated was the suggestion that this method could help with drinking problems and should be used by the patient at night or whenever he felt the need to relax. The tape instructed the patients to relax a specific muscle group, and then told them what sensations to expect. Relaxation suggestions were spoken softly and with reworded repetition. After one muscle group was dealt with, another would become the focus of the taped instructions. The procedure continued until all major muscle groups were covered. The tape ended by reversing the

nature of the instructions. This was in order to end the treatment by bringing the patients back to a normal activity level.

See the acknowledgment for the source of the progressive relaxation recording.

Procedure. The progressive relaxation treatment recording was played for the PRT Group at the end of their small group counseling sessions during their first week as inpatients. The PRT Group heard the tape a total of three times, usually between 1:30-2:00 P.M. in the afternoon, and sat in chairs while listening. The group which received no progressive relaxation treatment (the NPRT Group) received additional time for small group counseling instead of hearing the relaxation tape. There were approximately 12 patients present for both the PRT and NPRT Groups in each small group meeting.

RESULTS: PATIENT CHARACTERISTICS AT INTAKE

Personal and Social Characteristics. The subjects in the PRT and NPRT Groups did not significantly differ from each other on any personal or social characteristic at the time of hospital admission.

Overall, subjects were predominantly male (74 per cent). More of the subjects had a marital divorce, annulment or separation (50 per cent) than were married and living with their spouse (40 per cent).

The Index of Value Orientation was used to measure social class status (McGuire and White, 1955). About 46 per cent of the subjects were middle class or higher.

The religious preference of the subjects was predominantly Protestant (67 per cent), with about 15 per cent Catholic, 1 per cent Jewish, 8 per cent "others," and 8 per cent expressed no religious preference at all.

Most of the subjects (51 per cent) had been arrested during the year prior to intake due to drinking. This was not an unusual percentage of arrests for alcoholic patients.

At the time of admission, the median age of the subjects was 47, their median number of years of education was 12, and the median number of weeks since they had attended an Alcoholics Anonymous meeting was 9.5.

Vocational Characteristics. The subjects in the PRT and NPRT Groups did not differ significantly on any vocational characteristic at intake. Over half (51 per cent) of all subjects were employed or housewives, and about 46 per cent were unemployed. The remaining patients were handicapped, retired, or otherwise not a potential part of the labor force.

Only 31 per cent of the subjects had an occupational level of "white collar" or higher.

The median length of time the subjects had held their last job was .77 years (about 9 months).

Drinking Characteristics. The PRT and NPRT Group subjects did not significantly differ in the number of weeks since their last drink prior to Center admission (median=2.0 weeks) or in the number of years they had been drinking (median=25.0 years), but the groups did differ in the number of years their members had lost control of drinking.

The median number of years subjects in the PRT Group had lost control of drinking was 10. This was over twice the figure for the NPRT Group, whose subjects had lost control of their drinking for a median of about 4 years. Because of this difference, the outcome data were examined on the basis of whether or not subjects received progressive relaxation *and* whether patients were above or below the *total* median number of years (5.5) subjects had lost control of their drinking. This was in order to control for the loss of control of drinking variable, and, therefore, to isolate the effect of progressive relaxation. In the PRT Group, 22 patients were above this total median, 13 below it, and information was not available on this variable for one patient. This patient, however, was included for total group analyses. In the NPRT Group, 13 patients were above the total median and 23 were below it.

RESULTS: PATIENT CHARACTERISTICS AT HOSPITAL DISCHARGE RELATIVE TO PROJECT OBJECTIVES

Objective #1, to reduce the number of patients who drop out of treatment and leave the Center AMA, particularly at the beginning of treatment. When the incidence of AMA discharges during the first two weeks of treatment for patients who had lost control of their drinking for more than 5.5 years was compared between

the study groups, it was found that only one patient (out of 22) left the Center AMA in the PRT Group, while 4 (out of 13) left AMA in the NPRT Group. The frequency differences were statistically significant ($P=.0486$, Fisher's exact test). There was no significant difference in the incidence of AMA discharges between groups for patients who had lost control of their drinking for less than 5.5 years, nor between the PRT and NPRT Groups overall. In total, four patients out of the 36 members of the PRT Group left the Center AMA and 5 of 36 in the NPRT Group.

Overall, patients in the PRT Group had a higher average stay at the Center (25.4 days) than the NPRT Group (23.6 days). The difference was not statistically significant ($t=.99$, $df=70$, $P>.05$) between the groups.

However, the NPRT Group's overall average days' stay of 24 was attained by having most patients both above (19.4 per cent) or below (41.7 per cent) the customary (and assumedly optimal) hospitalization duration of 25-28 days instead of within it. In fact, only 38.9 per cent (a minority), of NPRT Group patients were hospitalized for the recommended length of time. This contrasted strikingly with the PRT Group, where 75 per cent stayed at the Center 25-28 days. Chi square analysis using the three categories of 25-28 days, over 28 days, and under 25 days, revealed a significant difference ($X^2=10.7$, $2df$, $P<.01$) between the PRT and NPRT Groups.

When patients were compared by study group *and* by number of years patients had lost control of drinking a significant finding resulted. Patients in the PRT Group who had lost control of their drinking for more than 5.5 years averaged 25.2 days at the Center, while those in the NPRT Group stayed only 19.2 days. The difference was statistically significant ($t=2.535$, $df=33$, $P<.05$). There was not a statistically significant difference between study groups for patients who had lost control of drinking for less than 5.5 years; those in the PRT Group averaged 26.08 days hospitalization and those in the NPRT Group averaged 26.13 days hospitalization.

Objective #2, to enable patients to sleep and rest more fully. The patients who had lost control of drinking for more than 5.5 years in the PRT Group had a significantly ($t=2.26$, $32df$, $P<.05$) higher average percentage of "quiet nights" (99.2 per cent) than those in the NPRT Group (93.2 per cent). Although the percent-

ages of "quiet nights" in both groups, and subgroups, were high (over 93 per cent), the index of "quiet nights" was used, not only as a direct measure, but as a general indicator to reflect anxiety and night time unrest. It was a direct measure only of disturbances severe enough to come to the attention of the night nurse, and this type of disturbance would be expected to be relatively infrequent.

A further indication of whether or not Objective #2 was attained was that the PRT Group, but not the NPRT Group, showed a significant increase in the percentage of subjects with a low "Fatigability" scale score on the CMIHQ. The items on this scale, in particular, pertained to symptoms which would be effected by the quality of night time sleep and rest.

Objective #3, to improve the adjustment of patients between intake and discharge. Indices of adjustment were the intake-discharge changes on selected scales of the CMIHQ and CMIN2.

No patterns were evident when groups were divided on the basis of number of years lost control of drinking which were not also present when comparing groups as a unit. The PRT Group showed a significant "favorable" change on the "Fatigability" and "Anger" scales of the CMIHQ, while the NPRT Group showed a significant change on the "Depression" and "Anger" scales. Each Group showed significant score decreases (symptom reductions) on two scales, one ("Anger" scale) in common with each other.

The same type of analysis as was used for the CMIHQ scales was utilized for the CMIN2 scales. The PRT Group showed significant "favorable" changes on two scales, "Startle" and "Hypochondriasis and Asthenia." The NPRT Group did not show a significant change on any scale.

DISCUSSION AND CONCLUSIONS

It was considered beneficial for the alcoholic patient to retain him in treatment for his scheduled hospitalization period. Premature departure was usually considered as undesirable, as was being hospitalized much beyond the customary stay.

Significantly more alcoholic patients who received progressive relaxation treatment (PRT Group), when compared with those who did not (NPRT Group), stayed the optimal length or time in treatment (25-28 days). Furthermore, for patients who had lost

control of their drinking more than 5.5 years, those in the PRT Group, on the average stayed a significantly more favorable length of time (25 days, versus 19 days).

Therefore, generally, PRT did seem to fulfill its intended purpose of retaining patients in treatment, and for an optimal length of time.

It was generally considered undesirable for a patient to leave treatment against medical advice (AMA), since this type of departure meant that a patient was leaving even though the treatment staff felt he could still benefit from further therapy. The PRT Group, as compared to the NPRT Group, overall had numerically fewer patients leave AMA (four, versus five) and significantly fewer leave AMA during the first two weeks of treatment (one, versus four) of patients who had lost control of their drinking for more than 5.5 years. PRT did, then, seem to have an effect on the early AMA discharge rate of some patients.

Night time disturbances severe enough to warrant a nurse's attention were considered indicative of excessive (undesirable) patient anxiety and, more directly, of a patient not receiving proper rest. It was generally considered desirable for a patient to have few night time disturbances, or, a maximum number of nights ("quiet nights") when no disturbance was recorded by a night-nurse. PRT Group patients who had lost control of their drinking for more than 5.5 years had a significantly higher incidence of "quiet nights" than the same type of NPRT Group patients. Clearly, PRT probably increased the number of "quiet nights" of some PRT Group patients and, therefore, may have also reduced their excessive anxiety.

The Cornell Medical Questionnaires, Index and N2 forms, give an assessment of personal adjustment. Considering both forms together, the PRT Group showed four significant scale changes (between hospital intake and discharge) in an improved direction, while the NPRT Group showed only two significant changes. The PRT Group showed a wider range of significant improvements in adjustment.

The pattern of results indicates strongly that Progressive Relaxation Treatment, as an adjunct to other therapy, seems to have value for alcoholic patients in general, and, in particular, for those

who have lost control of their drinking for relatively long periods of time.

The pattern of results seemed to provide a basis for continuing the use of PRT at the Center, and continued research upon its effects.

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